SAFETY ANALYSIS FORM
for
Experiments Conducted at
BESSRC Facilities at the APS
Version 1.02

This review process is applicable to all experiments conducted at the beamlines in Sectors 11 and 12 at the APS Facility.

The completed form is to be submitted to the BESSRC CAT Office by the principal investigator (PI) or the independent investigator (II), with sufficient advance notice to allow a safety review of the proposed experiment prior to the scheduled beginning of the experiment. The information will be reviewed by the BESSRC CAT Director and appropriate BESSRC CAT safety personnel. If the initial review of the proposed experiment indicates the existence of unresolved safety, health or environmental issues associated with the project, a more extensive safety analysis of the proposed experiment will be conducted by an appropriately constituted BESSRC CAT Safety Review Committee. **The proposed experiment will not be allowed to begin until all safety, health, and environmental issues associated with the project have been resolved.**

Sections 1, 2, 3, and 4 (when applicable) are to be completed by the PI or II.

Section 1. Project Description

Date of Submission: Proposal No.:

Project Title:

Principal/Independent Investigator(s):

Other Participants (excluding administrative support personnel):

Project Dates Expected Start: Expected End:

Beamline(s) and Experiment Station(s) to be Used:

Laboratory Facilities Required:

In the space below give a general description of the project and its objectives. Be sure to include a list of the materials and equipment (i.e., equipment that is not a permanent part of the beamline) that will be used in this work. If this experiment is a variant of a "standard" or previously reviewed procedure, enter relevant information here (e.g., reference the Project Title of the previously reviewed procedure). In the table in Section 2 below, list any chemicals that will be used in this project .

Section 2. Chemicals to be Used in This Experiment List all chemicals that will be used in this project. You can add rows to the table below by positioning the insertion point in the last cell (lower right cell) and pressing the "tab" key.

Chemical	Physical Form[a]	Approximate Quantity[b] of Chemical	Size & Type[c] of Container

[a] Physical form [e.g., solid (specify powder, pellets, sponge); liquid; gas]

[b] Specify units [e.g., for solids, list the weight/mass; for liquids, list the volume and the concentration (if applicable); for gases, list the volume at STP].

[c] Size & Type of container (e.g., 1-pint glass bottle, 2-liter polypropylene bottle, AGA 044-size compressed-gas cylinder)

Note for Section 3. Safety and Health Issues: Place an "X" in the appropriate column for each of the items in the table to indicate the safety, health, and environmental issues anticipated for this project.

Section 3. Safety and Health Issues

Impact	Yes	No	Unknown
Does the proposed work, as you perceive it, intrinsically contain the following safety, health, or environmental issues or concerns?			
Use of toxic chemicals			
Use of radioisotopes, including calibration sources			
Use of materials containing transuranic elements			
Exposure to ionizing radiation (excluding the APS photon beam and radioisotopes)			
Use of Class III or Class IV lasers			
Use of combustible or flammable chemicals			
Use of compressed gases			
Use of cryogenic fluids			
Use of open flames			
Use of high magnetic fields			
Use of high-voltage (i.e., > 600 V) or high-amperage (i.e., > 50 A) equipment			
Use of carcinogenic chemicals			
Use of unstable or highly reactive chemicals			
Use of biological specimens			
Generation of hazardous or toxic wastes			
Generation of radioactive wastes			
Generation of biohazardous wastes			
Working at elevated heights			
Working in areas of mechanical hazards			
Operation of equipment under vacuum			
Operation of equipment at elevated pressures			
Operation of equipment at elevated temperatures (e.g., furnaces)			
Special requirements for ventilation			
Use of self-contained breathing apparatus or respirators			
Other (Explain; use additional lines if necessary.)			

It is my belief that I have identified all of the hazards related to this work.

Proposal No.: _____

Project Title: _____

_____

Signature, Principal Investigator or Independent Investigator Date

Section 4. Safety Evaluation for Experiments at BESSRC Beamlines Involving Radioactive Materials. (Complete this section only for projects that involve potential exposures to radioactive materials, including radioactive calibration sources--either sealed or unsealed. Check the "Does Not Apply" box if this project does not involve potential exposures to radioactive materials.)

Does Not Apply ☐

Proposal No.: ☐

Project Title: ☐

Project Dates Expected Start: ☐ Expected End: ☐

What radioisotopes (and their quantities/activities) will be involved?

Isotope	Physical Form[a]	Quantity/Activity Involved in This Experiment[b]

[a] Physical form [e.g., solid (chunk, powder, foil); liquid; gas; sealed calibration source; unsealed calibration source]

[b] Specify units (e.g., dis/min, Ci).

Provide a schedule for the necessary radiation monitoring and/or coverage by health physics personnel.

Where will the experiment be performed? (Identify all laboratories, beamlines, and experiment stations, as well as hoods and/or glove boxes, that will be used at the BESSRC facilities.)

What special provisions will be made for waste disposal?

Are additional or modified emergency plans required? Yes ☐ No ☐

If so, identify appropriate changes or additions.

Will the experiment involve special nuclear materials? Yes ☐ No ☐

Section 4. continued

Have the appropriate radiological controlled areas been designated by Health Physics, with provisions for posting where appropriate?	Yes	☐	No	☐
Have personal radiation dosimeters been requested for all researchers?	Yes	☐	No	☐
Estimate the total external radiation dose equivalents from this work (in person-rems).		☐		

BESSRC CAT Record
of
Environmental, Safety, and Health Review of Project

(To be completed by BESSRC CAT Office)

BESSRC CAT File Number:	
Proposal No.:	
Project Title:	
Cost Code(s):	
Sponsor(s):	
Principal/Independent Investigator(s):	
Other Participants:	

BESSRC CAT Safety-Review Committee Members:
(when applicable)

Committee Co-Chair	Committee Co-Chair

APPROVAL SIGNATURES:

The referenced project has been reviewed to assure that potential environmental, safety, and health hazards have been systematically identified; potential impacts have been analyzed; and reasonable measures have been taken to eliminate, control, or mitigate the hazards.

BESSRC CAT Director: _____
Date

BESSRC CAT safety personnel: _____
Date

_____
Date

_____
Date

BESSRC CAT Safety-Review Committee Co-Chairs:
(when applicable)

_____
Date

Date

Report Based on Safety Review of Experiment

Requirements for Experiment
(as determined through the safety-review process)

BESSRC CAT File Number:	
Proposal No.:	
Project Title:	
Cost Code(s):	
Sponsor(s):	
Principal/Independent Investigator(s):	
Other Participants:	

General

Chemical

Health Physics